A scenic view of a lake with a sandy beach and a wooden post in the water. The water is calm with gentle ripples. In the background, there is a grassy area with a wooden fence and a small wooden structure. A sandy path leads from the beach towards the water. The sky is clear and blue.

Recreational Advisories for Harmful Algal Blooms 2017 Update

VDH – Division of Environmental Epidemiology

Microcystin/Microcystis Recreational Advisory Guidance (2012)

5,000 to <20,000 Microcystis cells/mL

- Local agency notification
- Bi-weekly water sampling

20,000 to 100,000 Microcystis cells/mL

- Public notification that a harmful algal bloom is present
- Weekly sampling

100,000 Microcystis cells /mL, or
> 6 ppb microcystin concentration, or
Blue-green algal “scum” or “mats” on water surface

- Public notification to avoid all recreational water contact
- Continue weekly sampling

Lift advisories following two consecutive samples below threshold

Advisory Signage and Public Notification

Example Harmful Algal Bloom Press Release

VDH DEPARTMENT OF HEALTH
Protecting You and Your Environment

100 Governor Street, Richmond, Virginia 23219 • www.vdh.virginia.gov

FOR IMMEDIATE RELEASE Month, XX, 20XX

For More Information Contact Release #XX

Contact name and number (add title if not a 703-750 contact preferred)

TOXIC HARMFUL ALGAL BLOOM OCCURRING IN X WATERBODY

Public advised to avoid water contact

(City/County, Va.)—High levels of toxic algae have been found in X Waterbody. A harmful algal bloom of *Microcystis aeruginosa* is occurring in the waterbody. This type of blue-green algae produces a toxin that can cause rashes and other illness. The Virginia Department of Health is warning citizens to stay out of the water and to keep their pets and children out as well. Due to low body weight, children and pets are at greater risk of severe illness if the water is ingested.

Harmful algal blooms occur when warm water and nutrients combine to make conditions favorable for blue-green algae growth. The algae become so abundant that they can turn the water green or bluish-green and may produce and release toxins. Microcystin, one type of toxin which can be produced by blue-green algae, can develop in green, blue, or white clumps or glops on the surface of the water. It may also look like thick, green-blue paint on the surface of the waterbody.

The Department of Environmental Quality and the Department of Health will continue to monitor water quality in X Waterbody during the harmful algal bloom, and a VDH representative.

To prevent illness, people should:

- Avoid contact with any area of the waterbody where water is green or an advisory sign is posted.
- Keep children and pets out of affected areas too, and quickly wash them off with soap and water after coming into contact with algae and never drink untreated water.
- If you experience symptoms after swimming in or near an algal bloom, seek medical care.
- Call the Virginia Harmful Algal Bloom Hotline at 888-238-6154 for more information or to report blooms.

BE AWARE OF ALGAE BLOOMS

During an algae bloom, water may have surface scum, mats, or films with red, green, white streaks or glops.

REPORT BLOOMS TO THE Harmful Algal Bloom Hotline 888-238-6154



It is safe to eat properly cooked fish caught from waters with an algae bloom. Thoroughly clean the fish. Discard the carcass and guts. Wash hands, surfaces, and utensils with soapy water.

The Virginia Harmful Algal Bloom Task Force works to protect public health during algae blooms.

Learn more at www.HarmfulAlgaeVA.com

Contact Your Local Health Department at: **VDH** VIRGINIA DEPARTMENT OF HEALTH Protecting You and Your Environment

ATTENTION

POTENTIALLY HARMFUL ALGAE HAVE BEEN DETECTED

Water quality is being monitored to determine if health risks may be present.

- Avoid swimming and wading in areas where surface scum is present.
- Keep away children, pets, and animals, who are more likely to swallow water.
- Thoroughly wash skin with clean fresh water after contact.

SOME ALGAE MAY CAUSE ILLNESS

Call your doctor or veterinarian if you or your animals experience illness or signs of poisoning.

While fish consumption is not affected by toxic algae, thoroughly cleaning the fish, discarding the carcass & guts, & washing hands & surfaces afterward with soapy water is advised.

Report algal blooms and illnesses to VDH Hotline: 888-238-6154

Call your Local Health Department:

For more information: <http://www.vdh.virginia.gov/environmental-epidemiology/harmful-algal-blooms-habs/>

VDH VIRGINIA DEPARTMENT OF HEALTH Protecting You and Your Environment

WARNING

HARMFUL ALGAE PRESENT

PEOPLE AND ANIMALS SHOULD AVOID SWIMMING AND WADING UNTIL FURTHER NOTICE



EXPOSURE TO ALGAL TOXINS MAY CAUSE ILLNESS

Call your doctor or veterinarian if you or your animals have sudden or unexplained sickness or signs of poisoning.

While fish consumption is not affected by toxic algae, thoroughly cleaning the fish, discarding the carcass & guts, & washing hands & surfaces afterward with soapy water is advised.

Report algal blooms and illnesses to VDH Hotline: 888-238-6154

Contact your Local Health Department: 757-603-4277

For more information: <http://www.vdh.virginia.gov/environmental-epidemiology/harmful-algal-blooms-habs/>

VDH VIRGINIA DEPARTMENT OF HEALTH Protecting You and Your Environment

ALGAL BLOOM SURVEILLANCE MAP

The map is updated regularly during the months of March–November. Please click on map points for the most recent sample results.



Map Legend Click on sites within map above for sample results and details.

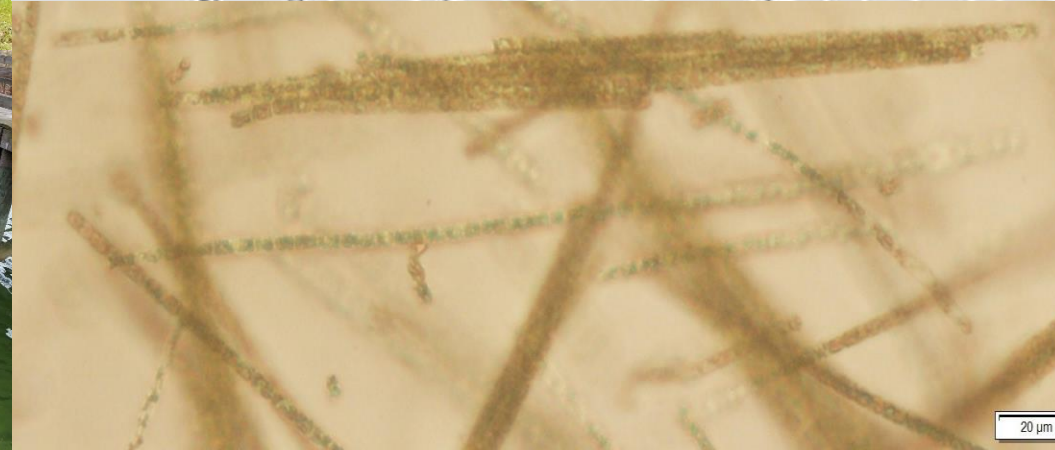
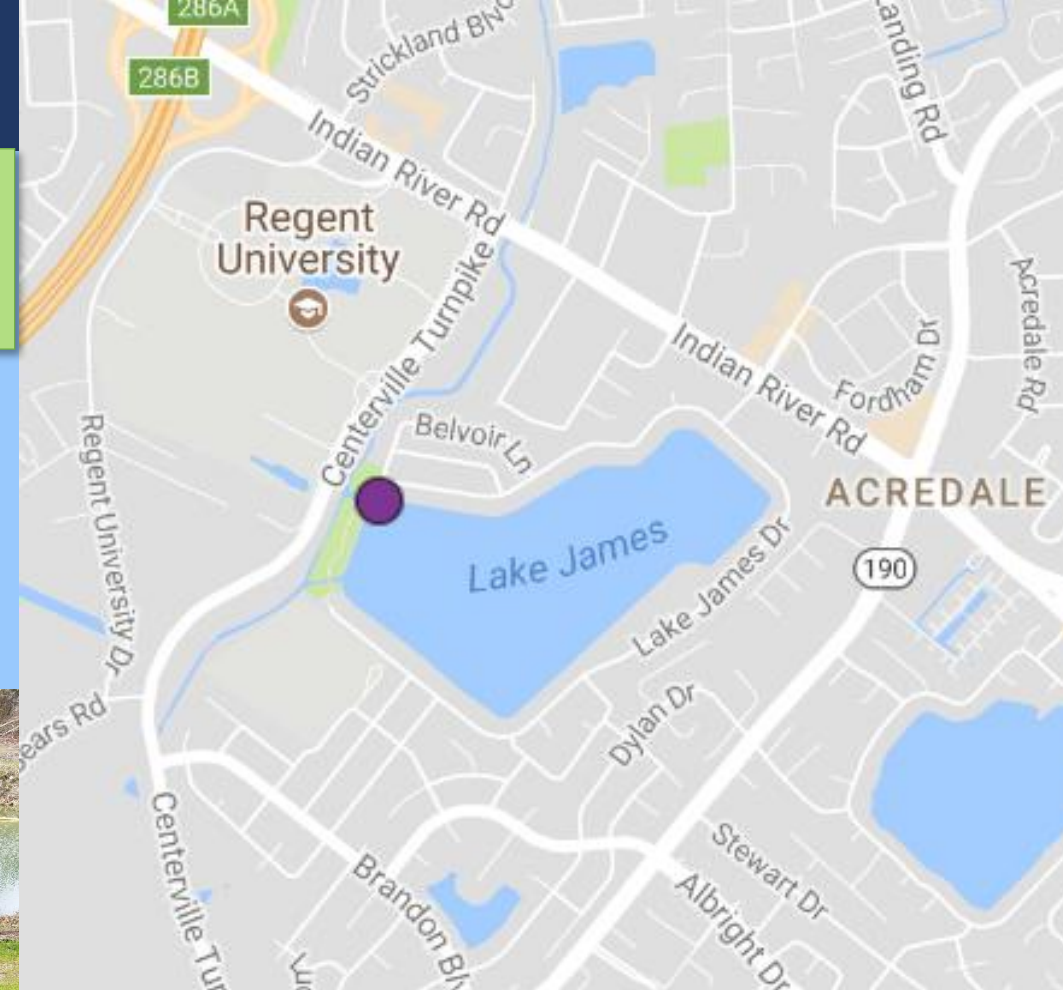
- **Active Algal Bloom—No Human Health Advisory** algal species are not known to be harmful to humans, pets, or fish.
- **Active Algal Bloom—No Human Health Advisory** algal species are not known to be harmful to humans or pets but may be capable of producing toxin harmful to fish.
- **Active Algal Bloom—No Human Health Advisory** algal species capable of producing toxin harmful to humans, pets, and fish. Current results indicate toxins are below levels believed to pose a health risk to humans, pets and fish. Surveillance ongoing to monitor toxin concentration levels.
- **Active Algal Bloom—Human Health Advisory to Avoid Contact** algal species capable of producing toxin harmful to humans, pets, and fish. Current results indicate toxin concentrations may pose a risk to humans, pets and fish. Surveillance ongoing to monitor toxin concentration levels.
- **Past Bloom Event**—surveillance discontinued due to the dissipation of the bloom.
- **Bloom Site Closed Label**—VDM and the Harmful Algal Bloom Task Force can provide limited monitoring and testing for privately owned lakes and protection support of public waterbodies. A list of private lake management companies is available at the Dept. of Game and Inland Fisheries website at: <https://www.dgif.virginia.gov/conservation/private-lake-consultants.pdf>

Lake James – 19 Days

Virginia Beach, VA

- Private Community – No Public Access
- Tributary to Eastern Branch of Elizabeth River
- ~100 Lake front homes with private beach park
- Connected to local municipal separate storm sewer system
- Recurring bloom

A. flos-aquae 4.20×10^7
P. isothrix 4.00×10^4
Microcystin 6.15ppb



Lake James – 32 Days & Counting

1/26/18 Lake James - ramp

Planktothrix sp. 8.22×10^7 cells/ml

Microcystin: >20ppb

Abraxis test strip = 5ppb

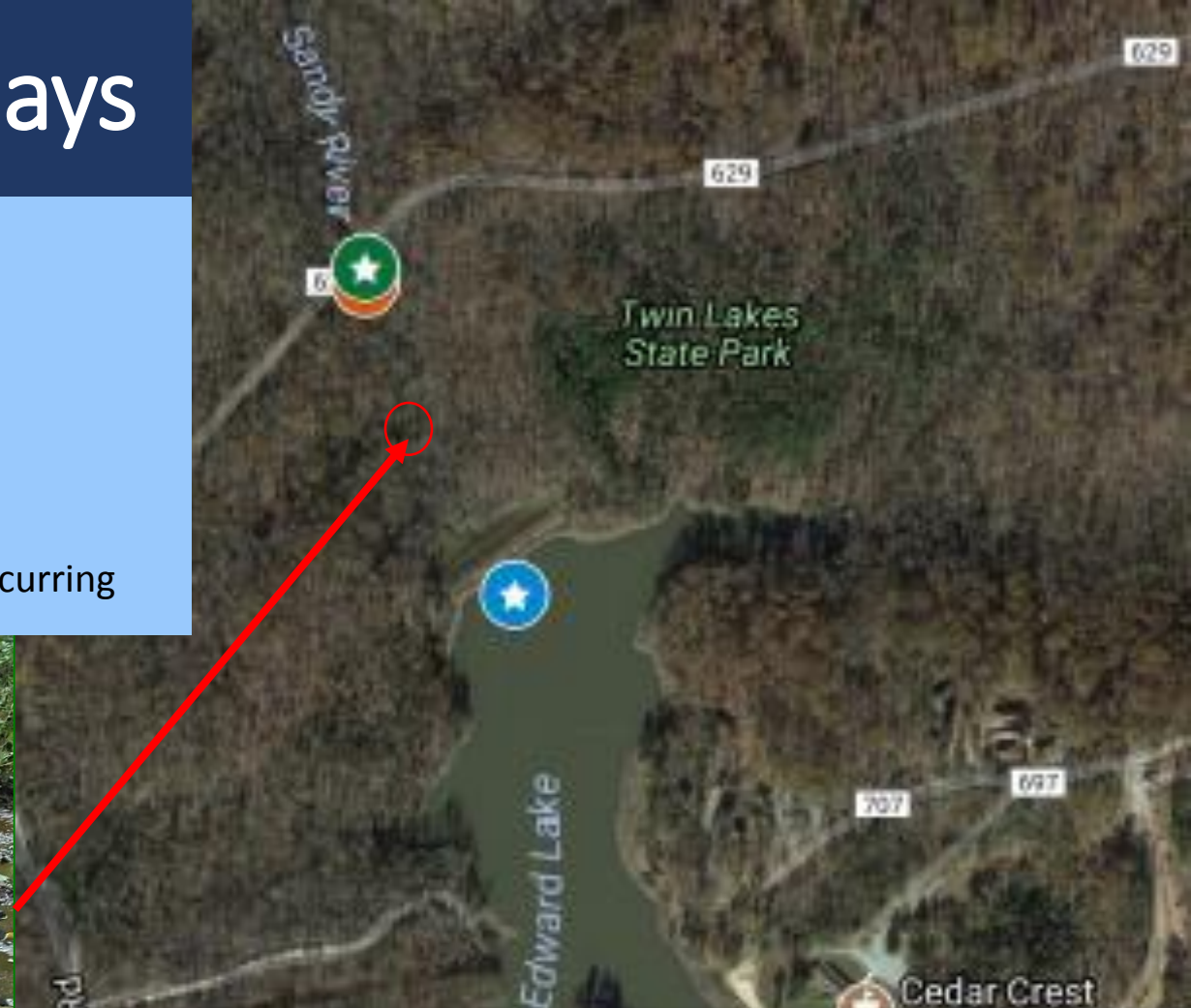
- Multiple algaecide applications
- City conducting a study within the Cedar Creek Canal below the HRRC Landfill



2/20/18

Sandy River Headwaters – 3 Days

- Prince Edward County, Twin Lakes State Park
- Bloom is below dam of Prince Edward Lake in Sandy River headwater
- Stream crossing “Otter’s Path”
- Signage placed along path over weekend and overnight patrons notified
- Public notification drafted but not issued
- DCR utilized flushing to disrupt pooled areas where the blooms were occurring



7/28/17

Prince Edward Lake – “tower”

No HAB sp.

Microcystin 0.1215 ppb

Sandy River - culvert surface scum

Planktothrix sp. 1,975,000 cells/mL

M. aeruginosa 12,500 cells/mL

Microcystin 0.1155 ppb

8/3/17

“Otter’s Path” crossing

Planktothrix sp. 881,000 cells/mL

Chris Greene Lake – 98 days

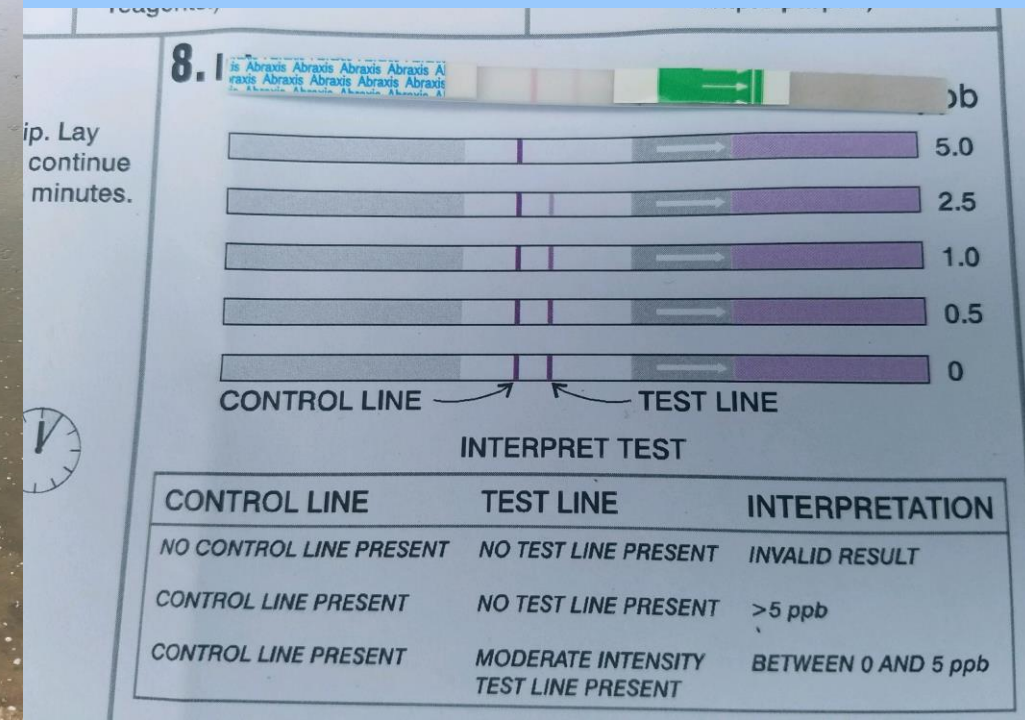
- Albemarle County, north of Charlottesville
- County staff conduct bacterial monitoring at 3 public parks with beach swimming. TF provided a kit to support HAB monitoring throughout the bloom
- Bloom near beach and fishing dock/boat ramp, area by dog park

7/28/17 Chris Greene Lake – dock

<i>Planktothrix</i> sp.	5,600,000 cells/mL
<i>Anabaena</i> sp.	131,800 cells/mL
<i>M. aeruginosa</i>	3,698,000 cells/mL
Microcystin	4.6225 ppb



7/28/17 Chris Greene Lake Microcystin Strip Result



Woodstock Pond – 106 days

- James City County, York River State Park
- Recurring bloom since 2012
- Freshwater SPATT project planned for July – November 2017
- Bloom first observed on 7/19
- Second advisory issued ~ 1 month after first advisory lifted

7/26/17 Woodstock Pond – spillway dock

M. aeruginosa 345,000 cells/mL

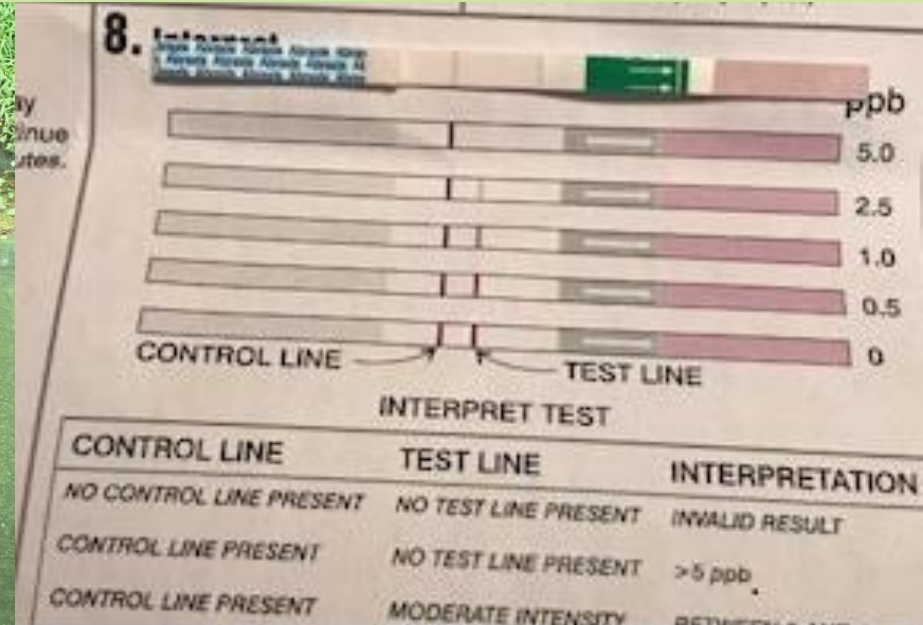
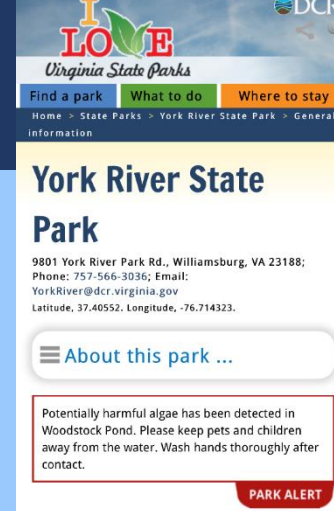
Anabaena spp. 177,700 cells/mL

Microcystin 1.624 ppb

11/21/17

Anabaena spp. 512,000 cells/mL

Microcystin >5 ppb

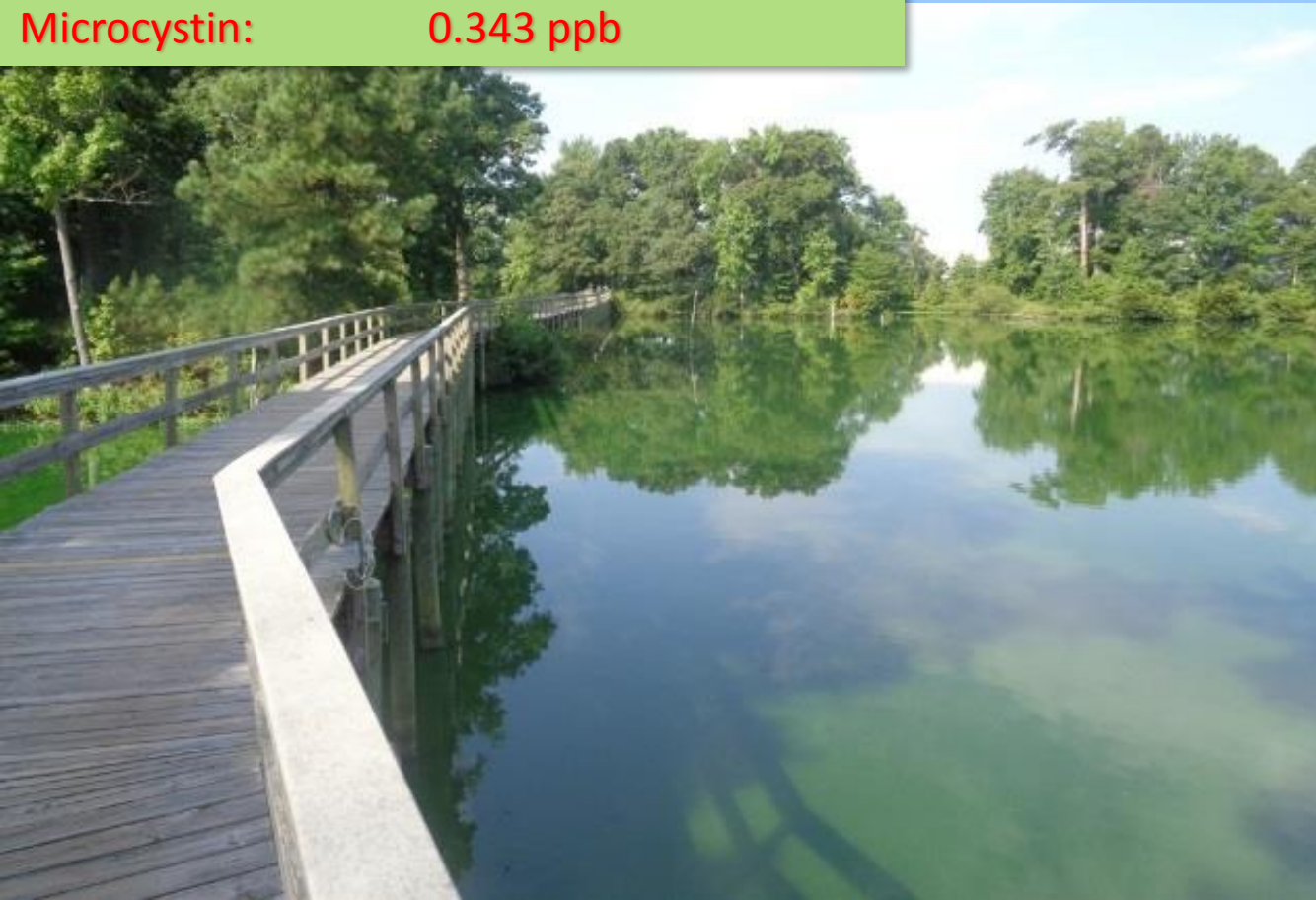


Woodstock Pond 11-21-17

Lake Matthews – 28 days

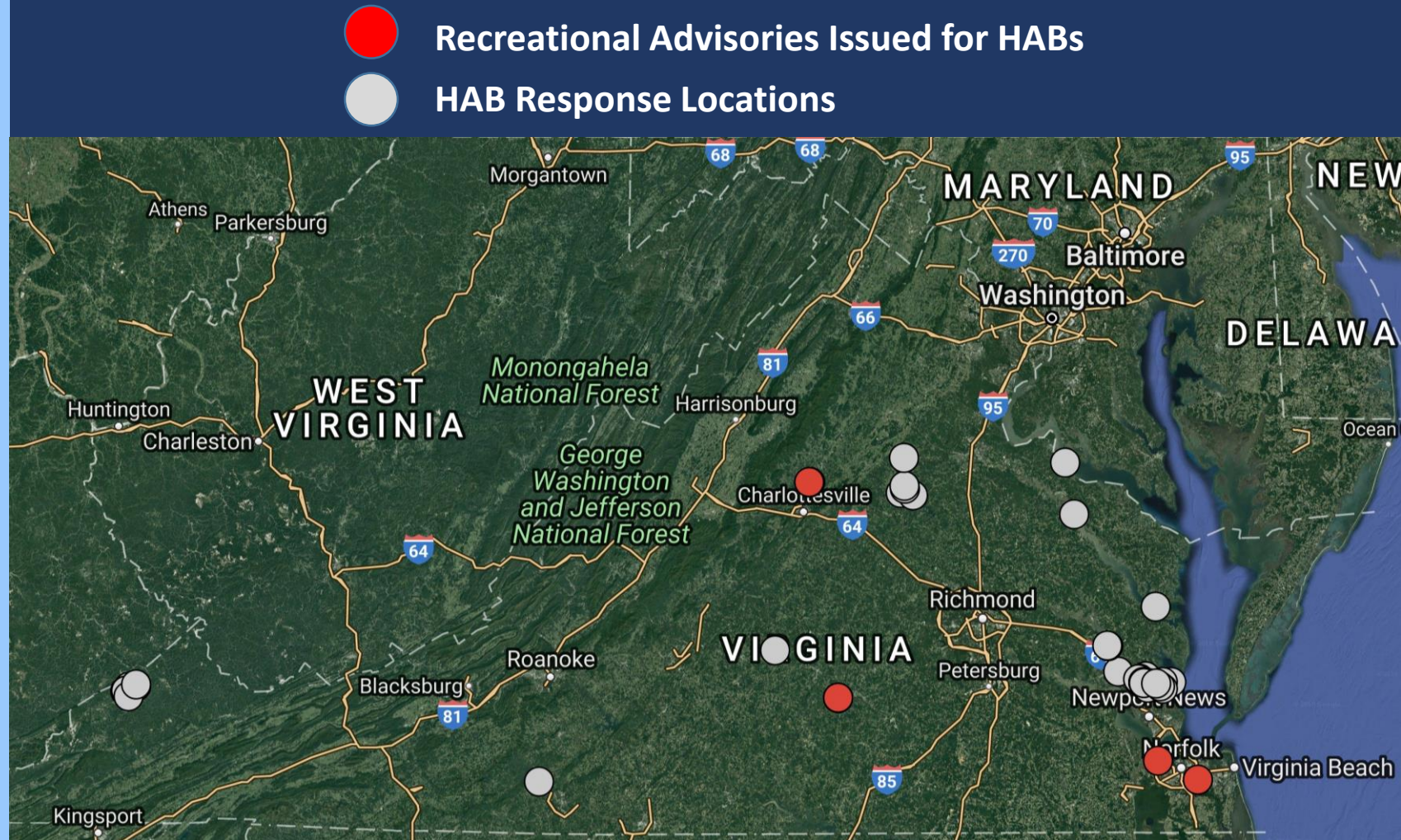
- Suffolk, VA
- Lake acts as a BMP for office buildings and restaurant
- Limited access, mostly used during weekdays by staff – 2 footbridges

8/2/17 Lake Matthews Burbage footbridge
Anabaena circinalis 8,700,000 cells/ml
Microcystin: 0.343 ppb



HAB Recreational Advisories At-A-Glance 2017

- 6 Recreational Advisories for HABs
- 5 locations:
 - Virginia Beach
 - Prince Edward
 - Albemarle
 - James City
 - Suffolk, VA
- Advisories Issued:
 - **February (1)** – Lake James
 - **July (3)** – Chris Greene Lake, Woodstock Pond, Sandy River HWs
 - **August (1)** – Lake Matthews
 - **November (1)** – Woodstock Pond



Total Days Under HAB Recreational Advisory: **132**

Questions?

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